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An overview of the development and use of Web 2.0 by the South African government

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ABSTRACT

This article indicates that in South Africa the importance of information technology has been recognised as far back as 1995 by then deputy president Thabo Mbeki. Although a number of information technology initiatives and legislation have followed since then it seems that the Web 1.0 generation to share information and text remains today still the most widely used form of communication by the government in South Africa. Web 2.0, the next generation of web use, is growing in popularity amongst citizens in the country however the uptake of Web 2.0 by the government has been slow to date.

Keywords: Information technology, Web 2.0, South African government, development, social networks

1. Introduction

Information and Communication Technology plays an important role in the social, economic and political development of any country, including South Africa. Technology has the potential to influence societies, governments and democracies radically as was recently seen in countries like Egypt, Tunisia, Libya and other Arab countries where protestors made use of web 2.0 technologies and social media websites like facebook, Twitter, YouTube, cell phones and Skype to organise demonstrations and to maintain a flow of new and important information relevant to their cause.

Technology has many different definitions and various authors write extensively about the development, use and influences of technology. For the purpose of this article the concept technology will refer to techniques, tools, technical objects or technical apparatus. Therefore in this article technology is not just restricted to the development and use of the computer, but can include various technical objects, for example administrative procedures, forms, the telephone, cell phones and Internet facilities on cell phones. This article focuses on one type of technology, namely information technology, which includes the use, study, design, development, implementation, support or management of computer-based information systems, particularly software applications for example e-government, Web 1.0 and Web 2.0 and computer hardware. For this article Web 1.0 will refer to the first generation of web use that consisted out of a one way flow of information with read only text that is focused on information sharing. Web 2.0 the second generation of web use refers to user centeredness, interactivity and can be described as a social web that includes web-based communities, social networking sites, video sharing, wikis and blogs. Web 2.0 is a computer-based information system with the potential to improve communication with and between citizens 24 hours a day, seven days a week.

The aim of this article is to explore the use of Web 2.0 technologies (for example blogs, wikis, facebook, and the virtual world) by the South African government. In doing this, this article will also give an over view of the development of technology use by the South African government. This research made use of an intensive internet search to determine the current use of Web 2.0 technology by the South African government. This research also included an extensive literature study to get a general overview of the development of information technology in South Africa.

1.1 The development of information technology in the South African government

In South Africa, the government has realised the importance of the growing information society and the benefits of using technology in government. The South African government's commitment to improving information dissemination and use was illustrated as early as 1995, when Mr Thabo Mbeki (the Deputy President of the Republic of South Africa) stated at the G7 Information Society meeting in Brussels, "we must strive to ensure that each individual whatsoever his or her station in life plays a meaningful role in decision making and in governance. One of the ways this can be done is to ensure that citizens have access to information" (Mbeki 1995). The South African government published a *Green Paper on E-Commerce* in November 2000 (Fraser-Moleketi 2002) in order to make people aware of the influence that information technology has and could have on South Africa. The *Green Paper* (2000:15) formulated the view of the South African government regarding the influence of information technology as follows:

... the increasing pace of technological innovation such as the rapid integration of the Internet and other telecommunications based activities into nearly every sphere of life has given rise to new ways of communicating, learning and conducting business. The Internet has facilitated the establishment of a borderless environment for communications and the electronic delivery of certain services. Convergence of technology is the major driving factor that contributes to the exponential growth of electronic commerce. Convergence goes beyond the use of technology to develop new products and services and is seen as a vehicle to improve the quality of life of society in South Africa and other developing countries (South Africa Department of Communications Green Paper on E-Commerce 2000:15).

Along with the *Green Paper on E-Commerce*, other legislations followed that promoted the use of technology by the South African Government for example the e-government policy drafted by the Department of Public Service and Administration (DPSA 2009b). This policy outlined a ten-year implementation plan for implementing e-government in South Africa. The Public Administration Management Bill (47 of 2008) that also confirmed the importance of using information technology in government by stating that a "minister must promote the use of information and communication technology in institutions to enhance the efficiency of their internal and administrative operations".

Apart from legislation the Department of Public Service and Administration was mandated to promote the use of information technology to improve public service delivery in South Africa. This resulted in the development of the State Information Technology Agency (SITA) and the Government Information Technology Officer's Council (GITO) (DPSA 2009b). Another important initiative that followed was the development of the South Africa Government Online gateway. This gateway is a single electronic gateway that facilitates access to all information about and services provided by the government. After the inception of the gateway in 2002 other e-government projects were initiated throughout South Africa, for example all nine provinces have developed their own portals (Habtemichael&Cloete 2009:78). Other initiatives include the e-filing of tax, the 2010 FIFA World Cup website and the Department of Trade and Industry (DTI) Broad Based Black Economic Empowerment website (B-BBEE).

Apart from these initiatives, the Department of Science and Technology (DST) promotes the importance of technology and has provided South Africa with an information technology roadmap. This gives an idea of the

type of technology that will be seen in the future, as well as and what can be expected of it over a ten-year timeframe (DST 2009). The Meraka Institute was also launched in April 2005. This Institute includes the Centre for High Performance Computing and the South African National Research Network and is responsible for information technology research (DST 2009). The technology and research that the Institute develops are being used in a number of African countries and have linked rural areas in South Africa with information networks, for example telehealth (DST 2009). Telehealth provides clinic sisters in rural areas with access to doctors, data and information located in city hospitals. Telehealth makes use of wireless, voice and video technology and allows for better healthcare in rural areas (South Africa info 2004).

The government's commitment to developing and using technology has stayed firm with government officials continuing to acknowledge the benefits and importance of using technology in government. In 2007, the Deputy President of South Africa stated that ICT is crucial for the future economic and social development of South Africa (Mlambo-Ngcuka 2007). She also stated that technology should be used to make a better life for all the citizens of the country. In 2008, the Minister of Public Service and Administration stated that:

... there should be no wrong door when a citizen needs to access a service, regardless of what the service is and through which government department it is offered. Information and communication technology is at the heart of this, it provides the means by which government officials are able to access data which underpins the provision of any service (ITWEB 2008).

This was reiterated again by the new Minister of Public Service and Administration in September 2009, who stated that information technology should be used to improve the lives of citizens and that citizens should be at the heart of all technology initiatives (DPSA 2009c).

In providing citizens with access to information the South African government initiated a number of centres with community access points where information technology services are made available to the public. The information technology service centres that can be used in community centres, cyber labs, public information terminals and libraries offer a one-stop service where local, provincial and national government, as well as other service providers offer services and information to local communities that probably would not have access to information technology otherwise (Thlabela et al 2006: online).

From the above it can be concluded that the government is committed to developing and using technology with a number of initiatives having been undertaken, however a review of these initiatives indicate that they are still based on the first generation of web use that consists out of sharing information with citizens. The South Africa Government Online gateway is a good example of this, the gateway offers government information to citizens and a subscription service that enables citizens to request government information to be e-mailed to them on a regular basis (Gov.za 2010: online). Therefore all the above mentioned initiatives can be seen as Web 1.0 technology use that are characterized by providing text or written information to users and a one way flow of information.

2. Information technology use by citizens in South Africa

Although according to Jensen (2001: 4) South Africa had the largest information technology infrastructure on the African continent in 2001. Growth has since then slowed down and South Africa was ranked fifth in 2011 after Nigeria, Egypt, Morocco and Kenya as far as top Internet use and development on the African continent is concerned (Internet world stats 2011: online). A review of current information technology applications in South Africa indicates that South Africa currently has 4,425 million main telephone lines in use with 46 436 million cellular telephone users (World Fact book 2011: online). For 2012, South Africa has 8.5 million Internet users for a population of 49 052 489 (Timeslive 2012: online). Although the number of Internet users is expected to increase to 10 million by 2013, largely due to the development and use of smart phones that provide access to the Internet and social networks, Internet penetration in South Africa remains approximately 17 percent (Timeslive

2012: online). Accordingly the Internet economy in South Africa is currently estimated at R59 billion (\$7 Billion) or 2 percent of the South African gross domestic product. (Samie 2012: online)

Despite this all universities in South Africa and 6 000 schools have access to ICT and an educational portal 'Thutong' was also established to assist educators and learners to access information. IST Africa (2009: online) state that South African websites attract highly educated users everyday and that South Africa's Internet use although it was slow and only contributes a small part of the countries gross domestic product has grown 121% since 2007, indicating that technology has become an important part of citizens lives in South Africa. As far as Web 2.0 is concerned Sanders (2010: online) state that South Africans are using the Internet and is interested in information and giving their opinion on blogs. Social websites for example twitter, YouTube, Flickr and facebook that are a characteristic of Web 2.0 is very popular amongst South African users. According to Social Media (2012: online) by the end of August 2012 South Africa had 5.33 million users on facebook. If this is compared to the number of Internet users in the country, South Africa has 63% of the population making use of facebook. According to Social Media (2010: online) South Africa already in 2010 had a much higher percentage of people with Internet connections making use of facebook than in other countries for example Germany where only 23% of the population make use of facebook. According to Sanders (2010: online) this high percentage of the population using facebook is an indication that South Africans are interested in social networks. The fact that 25% of South African facebook users being over the age of 35 is also an indication that information technology in South Africa is being used across generations (Sanders 2010: online).

In July 2011 South Africa became the tenth largest twitter user in the world (twitter 2011: online) South Africa accounts for 0.85% of the total global use of the popular blogging platform. Twitter is currently the seventh most popular website visited in South Africa. The most popular websites visited by South Africans includes Google South Africa first, facebook second, Google third, YouTube fourth, Yahoo fifth and Wikipedia sixth (Saunders 2011: online) A recent list of the 100 most popular followed individuals and sites on twitter revealed that South Africans tend to follow sports and celebrities like radio personality Gareth Cliff that is the most popular person followed in South Africa with 356 440 followers (Twitter 2012: online). After cricket player Graeme Smith, News 24 is the third most popular followed site with 196 521 followers. Following a number of radio personalities, singers, pop groups, sports sites and sites about South Africa, the African National Congress (ANC) info feed is number 23 on the list and the only political party in South Africa on the list with 16 545 followers (Twitaholic 2012: online). Currently there is no government department on the list of the most popular sites being followed of twitter. This indicates that although South Africans enjoy making use of social networks like facebook and twitter they don't necessarily follow politics, politicians and government activities.

2.1 Web 2.0 use by the South African government

Although the South African government has accepted the importance of the growing information society and the benefits of using technology in government and has initiated a number of technology driven initiatives as indicated above they still mostly remain Web 1.0 driven.

Some progress has been made towards the use of Web 2.0 in government activities. The Eastern Cape Government for example provides a blog for the Department of Education in the Eastern Cape (Eastern Cape Department of Education 2010: online). This blog invites learners and parents in the Eastern Cape to participate in discussions about education topics that are important for them. The Eastern Cape also provides a blog for discussion of economic development, environmental management, rural development and streamlining government operations (Eastern Cape HOD Blog 2010: online). This blog also makes provision for citizens in the Eastern Cape to link their photos and RSS feeds and provides links to You Tube and Twitter. The Port St. John Local Municipality is making use of social networking websites to promote the municipality. Port St. John is making use of a blog, Twitter and Facebook to keep residents informed about what is happening in the municipality (Port St. John Municipality 2010: online). The Chris Hani District Municipality also has a blog

where residents can leave comments for the municipality or add new topics for discussion (Chris Hani District Municipality 2010 online).

Apart from these local governments the government in the national sphere can also be found on facebook. Information is made available to facebook users about government activities for example the Presidents New Year Address, the State of the Nation Address and the budget vote speech by the Minister of Finance. Facebook users also have the opportunity to leave comments about these speeches and other government activities and give their views. Other aspects for example woman's abuse and the health of former President Nelson Mandela were also discussed by facebook users. To date 3 015facebook users has indicated that they like the South African government information on facebook (Facebook(a) 2012: online). The South African President, Jacob Zuma, also has joined other Heads of States for example Barack Obama, Angela Merkel, Vladimir Putin and Robert Mogabe on facebook. President Zuma has his individual profile on facebook and has a page for the Presidency of the Republic of South Africa. This webpage provides photos of the President as well as activities that he undertakes for example meetings with Ambassadors and other Heads of State and visits he undertakes to other parts of the world. To date 18 140 people indicated that they like the information and interaction on Facebook with the President of the Republic of South Africa (Facebook(b) 2012: online).

Apart from Facebook, various South African politicians are making use of Twitter to communicate and interact with citizens. President Jacob Zuma makes use of Twitter to send short tweets to followers on a number of issues from the local government elections to supporting BafanaBafana the national soccer team. President Zuma currently has 172 869 followers on Twitter (Twitter.com 2012:online). Helen Zillethe leader of the opposition also uses Twitter regularly and currently has 188 462 followers. Although these politicians as indicated earlier are not the most popular individuals to follow on twitter they still have a large following.

These are only some examples of how government departments or local governments are already making use of social website features and Web 2.0. Since the use of this generation of web use is still limited there is a lot of potential for the South African government to expand on the use of Web 2.0 and social networks.

3. Evaluation and recommendations and conclusions

From the above information it can be seen thatalthough information technology only represents 2 percent of the gross domestic product the South African government has initiated a number of information technology initiatives that include legislation and e-government websites for example the South Africa Government Online gateway. However most of these initiatives are currently still making using Web 1.0 technologyin most instances, few examples exists of how the South African government is gradually applying Web 2.0 technologies such as facebook and twitter. This article also found that citizens in South Africa are already making extensive use of Web 2.0 technology and will most probably continue to do so in the future.

Mobile phones in South Africa are Ricad (registered), government has access to all registered phones and in the future should update people about government initiatives and programmes from all departments and local municipalities data systems. Twitter has become a new and fast growing social network where the President, Presidency and some Ministers example, Minister Gigaba tweets information and updates to their followers. The advantage is that one needs to be a follower to get such information. Facebook, myspace, uploaded videos concerning governance issues on youtube also inform the public about governance in South Africa. Uploadable applications example, Black Berry (bbm) and Nokia (WhatsApp) can be a future invention as those who have such phones can upload the application for free and be updated immediately or enquire via that application to government departments. Institutional infrastructure and capacity and legality of sending out this information should be validated before such applications can be provided to the public. For example, individuals should have a choice to attain attitudes, knowledge and skills required to initiate, implement and sustain such e-government initiatives, leadership, authority and vision Government, public administrators, private sector and civil society to improve service delivery especially in rural areas. More capacitated e-management from the Cabinet level, senior

management of departments down to the subordinates and buy in from all stakeholders more PPPs in ICT through the Open Source Software is also required.

The South African government doesn't have an integrated monitoring and evaluation system specifically aimed at ICT. Formal monitoring and evaluation procedures thus need to be put in place emphasis should be placed here on the impact on service delivery and the customer.

Therefore it is recommended that the South African government investigates the optimal use of Web 2.0 technologies (blogs, facebook and twitter) to communicate with and interact with citizens.

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